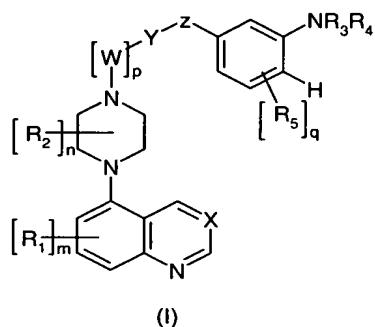


## **Amendments to the claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

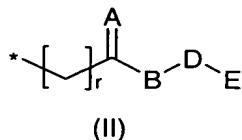
1. (original) A compound of formula (I) or a pharmaceutically acceptable salt thereof:



(I)

wherein:

- R<sub>1</sub> is halogen, cyano, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkoxy, haloC<sub>1-6</sub>alkoxy or haloC<sub>1-6</sub>alkyl;
- m is 0, 1, 2, 3 or 4;
- X is N or CH;
- R<sub>2</sub> is halogen, cyano, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkoxy, haloC<sub>1-6</sub>alkoxy or haloC<sub>1-6</sub>alkyl;
- n is 0, 1 or 2;
- W is -CH<sub>2</sub>-, -CH(C<sub>1-6</sub>alkyl)- or -C(C<sub>1-6</sub>alkyl)(C<sub>1-6</sub>alkyl)-;
- p is 0, 1, 2 or 3;
- Y and Z together form a C<sub>3-7</sub>cycloalkylene group, or Y is -CH<sub>2</sub>-, -CH(C<sub>1-6</sub>alkyl)- or -C(C<sub>1-6</sub>alkyl)(C<sub>1-6</sub>alkyl) and Z is -CH<sub>2</sub>-, -CHOH-, -CHR<sub>6</sub>- or -CR<sub>6</sub>R<sub>7</sub>- (wherein R<sub>6</sub> and R<sub>7</sub> are independently halogen, cyano, C<sub>1-6</sub>alkyl or C<sub>1-6</sub>alkoxy);
- R<sub>3</sub> and R<sub>4</sub> are independently hydrogen, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkylsulfonyl or a group having the formula (II):



(II)

wherein

- r is 0, 1, 2, 3 or 4;

- A is oxygen or sulfur;
- B is a single bond or  $-\text{NR}_8-$  (wherein  $\text{R}_8$  is hydrogen,  $\text{C}_{1-6}\text{alkyl}$  or aryl, wherein the aryl is optionally substituted by one or more substituents independently selected from halogen, oxo,  $\text{C}_{1-6}\text{alkyl}$ ,  $\text{CF}_3$ , cyano, hydroxy,  $\text{C}_{1-6}\text{alkanoyl}$ , and  $\text{C}_{1-6}\text{alkoxy}$ );
- D is  $-(\text{CH}_2)_t-$ ,  $-(\text{CH}_2)_t\text{O}-$  or  $-\text{O}(\text{CH}_2)_t-$ , wherein  $t$  is 0, 1, 2, 3 or 4; and
- E is  $\text{C}_{1-6}\text{alkyl}$ ,  $\text{haloC}_{1-6}\text{alkyl}$ ,  $\text{C}_{3-7}\text{cycloalkyl}$  (optionally substituted by one or more substituents independently selected from halogen, hydroxy, oxo,  $\text{C}_{1-6}\text{alkyl}$ , cyano,  $\text{CF}_3$ ,  $\text{OCF}_3$ ,  $\text{C}_{1-6}\text{alkoxy}$  and  $\text{C}_{1-6}\text{alkanoyl}$ ), aryl (optionally substituted by one or more substituents independently selected from halogen, oxo,  $\text{C}_{1-6}\text{alkyl}$ ,  $\text{CF}_3$ , cyano, hydroxy,  $\text{C}_{1-6}\text{alkanoyl}$  and  $\text{C}_{1-6}\text{alkoxy}$ ), or E is  $-\text{NR}_9\text{R}_{10}$ , wherein  $\text{R}_9$  and  $\text{R}_{10}$  are independently selected from hydrogen,  $\text{C}_{1-6}\text{alkyl}$  and aryl (optionally substituted by one or more substituents independently selected from halogen, oxo,  $\text{C}_{1-6}\text{alkyl}$ ,  $\text{CF}_3$ , cyano, hydroxy,  $\text{C}_{1-6}\text{alkanoyl}$  and  $\text{C}_{1-6}\text{alkoxy}$ );

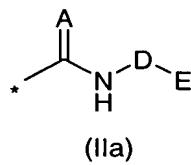
- or  $\text{R}_3$  and  $\text{R}_4$ , together with the nitrogen atom to which  $\text{R}_3$  and  $\text{R}_4$  are attached, form a 3-7 membered monocyclic heterocyclic group or a 8-11 membered bicyclic heterocyclic group, wherein each group is optionally substituted by one or more substituents selected from halogen, oxo,  $\text{C}_{1-6}\text{alkyl}$ , cyano,  $\text{CF}_3$ ,  $\text{C}_{1-6}\text{alkoxy}$ ,  $\text{C}_{1-6}\text{alkanoyl}$ , aryl and aryl $\text{C}_{1-6}\text{alkyl}$  (wherein the aryl and the aryl $\text{C}_{1-6}\text{alkyl}$  are further optionally substituted by one or more halogen, oxo,  $\text{C}_{1-6}\text{alkyl}$ , cyano,  $\text{CF}_3$ ,  $\text{C}_{1-6}\text{alkoxy}$  or  $\text{C}_{1-6}\text{alkanoyl}$ ); and
- $\text{R}_5$  is independently halogen, cyano,  $\text{C}_{1-6}\text{alkyl}$  or  $\text{C}_{1-6}\text{alkoxy}$ ; and
- $q$  is 0, 1, 2, 3 or 4.

2. (original) A compound as claimed in claim 1, wherein  $n$  is 0 or  $n$  is 1 and  $\text{R}_2$  is  $\text{C}_{1-6}\text{alkyl}$ .

3. (currently amended) A compound as claimed in claim 1 ~~or claim 2~~, wherein  $p$  is 0.

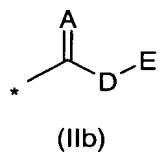
4. (currently amended) A compound as claimed in claim 1, ~~2 or 3~~, wherein  $\text{Y}$  and  $\text{Z}$  are independently  $-\text{CH}_2-$ ,  $-\text{CH}(\text{CH}_3)-$  or  $-\text{CH}(\text{OH})-$ .

5. (currently amended) A compound as claimed in claim 1 ~~any of claims 1-4~~, wherein formula (II) is:



wherein A is oxygen or sulfur, D is  $-(CH_2)_t-$ ,  $-(CH_2)_tO-$  or  $-O(CH_2)_t-$ , wherein t is 0, 1, 2, 3 or 4 and E is  $C_{1-6}$ alkyl,  $C_{3-7}$ cycloalkyl (optionally substituted by one or more substituents independently selected from halogen, hydroxy, oxo,  $C_{1-6}$ alkyl, cyano,  $CF_3$ ,  $OCF_3$ ,  $C_{1-6}$ alkoxy and  $C_{1-6}$ alkanoyl), or aryl (optionally substituted by one or more substituents independently selected from halogen,  $C_{1-6}$ alkyl,  $CF_3$ , cyano, hydroxy,  $C_{1-6}$ alkanoyl, and  $C_{1-6}$ alkoxy);

or



wherein A is oxygen or sulfur, D is  $-(CH_2)_t-$ ,  $-(CH_2)_tO-$  or  $-O(CH_2)_t-$ , wherein t is 0, 1, 2, 3 or 4 and E is  $C_{1-6}$ alkyl,  $C_{3-7}$ cycloalkyl (optionally substituted by one or more substituents independently selected from halogen, hydroxy, oxo,  $C_{1-6}$ alkyl, cyano,  $CF_3$ ,  $OCF_3$ ,  $C_{1-6}$ alkoxy and  $C_{1-6}$ alkanoyl), or aryl (optionally substituted by one or more substituents independently selected from halogen,  $C_{1-6}$ alkyl,  $CF_3$ , cyano, hydroxy,  $C_{1-6}$ alkanoyl, and  $C_{1-6}$ alkoxy).

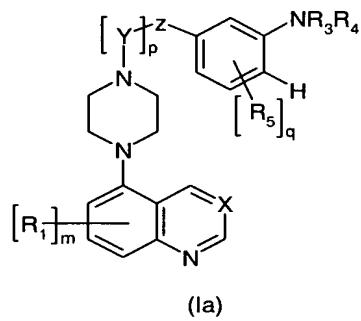
6. (currently amended) A compound as claimed in ~~claim 1 any of claims 1-5~~, wherein E is a 5- to 7- membered monocyclic aromatic ring wherein one or more of the carbon atoms in the ring is optionally replaced by a heteroatom independently selected from nitrogen, oxygen and sulfur, wherein the ring is optionally substituted by one or more substituents independently selected from oxo, halogen,  $C_{1-6}$ alkyl,  $CF_3$ , cyano, hydroxy,  $C_{1-6}$ alkanoyl, and  $C_{1-6}$ alkoxy; or E is a 9- to 10- membered bicyclic aromatic ring, wherein one or more of the carbon atoms in the ring is optionally replaced by a heteroatom independently selected from nitrogen, oxygen and sulfur, wherein the ring is optionally substituted by one or more substituents independently selected from oxo, halogen,  $C_{1-6}$ alkyl,  $CF_3$ , cyano, hydroxy,  $C_{1-6}$ alkanoyl, and  $C_{1-6}$ alkoxy.

7. (currently amended) A compound as claimed in ~~claim 1 any of claims 1-5~~, wherein E is methylamine, ethylamine, propylamine, isopropylamine, butylamine, isobutylamine, sec-butylamine, tert-butylamine, pentylamine, neopentylamine, sec-

pentylamine, n-pentylamine, isopentylamine, tert-pentylamine, hexylamine; dimethylamine, diethylamine, dipropylamine, diisopropylamine, dibutylamine, diisobutylamine, disec-butylamine, ditert-butylamine, dipentylamine, dineopentylamine, dihexylamine, butylmethylamino, isopropylmethylamino, ethylisopropylamino, ethylmethylamino; a monoarylamino such as anilino; or a monoC<sub>1-6</sub>alkyl-monoarylamino.

8. (currently amended) A compound as claimed in ~~claim 1 any of claims 1-7~~, wherein R<sub>3</sub> and R<sub>4</sub>, together with the nitrogen atom to which R<sub>3</sub> and R<sub>4</sub> are attached, form a 4-6 membered monocyclic heterocyclic group optionally substituted by one or more substituents selected from oxo, halogen, C<sub>1-6</sub>alkyl, cyano, CF<sub>3</sub>, C<sub>1-6</sub>alkoxy, C<sub>1-6</sub>alkanoyl, aryl and arylC<sub>1-6</sub>alkyl (wherein the aryl and the arylC<sub>1-6</sub>alkyl are further optionally substituted by one or more halogen, oxo, C<sub>1-6</sub>alkyl, cyano, CF<sub>3</sub>, C<sub>1-6</sub>alkoxy or C<sub>1-6</sub>alkanoyl); or R<sub>3</sub> and R<sub>4</sub>, together with the nitrogen atom to which R<sub>2</sub> and R<sub>3</sub> are attached, form a 8-10 membered bicyclic heterocyclic group optionally substituted by one or more substituents selected from oxo, halogen, C<sub>1-6</sub>alkyl, cyano, CF<sub>3</sub>, C<sub>1-6</sub>alkoxy, C<sub>1-6</sub>alkanoyl, aryl and arylC<sub>1-6</sub>alkyl (wherein the aryl and the arylC<sub>1-6</sub>alkyl are further optionally substituted by one or more halogen, oxo, C<sub>1-6</sub>alkyl, cyano, CF<sub>3</sub>, C<sub>1-6</sub>alkoxy or C<sub>1-6</sub>alkanoyl).

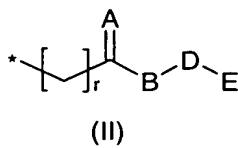
9. (original) A compound as claimed in claim 1, having a general formula (Ia):



(Ia)

wherein:

- R<sub>1</sub> is halogen, cyano, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkoxy, haloC<sub>1-6</sub>alkoxy or haloC<sub>1-6</sub>alkyl;
- m is 0, 1, 2, 3 or 4;
- X is N or CH;
- p is 1, 2, 3 or 4;
- Y is -CH<sub>2</sub>-, -CH(C<sub>1-6</sub>alkyl)- or -C(C<sub>1-6</sub>alkyl)(C<sub>1-6</sub>alkyl)-;
- Z is -CH<sub>2</sub>-, -CHOH-, -CHR<sub>6</sub>- or -CR<sub>6</sub>R<sub>7</sub>-, wherein R<sub>6</sub> and R<sub>7</sub> are independently halogen, cyano, C<sub>1-6</sub>alkyl or C<sub>1-6</sub>alkoxy;
- R<sub>3</sub> and R<sub>4</sub> are independently hydrogen, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkylsulfonyl or a group having the formula (II):



wherein:

- r is 0, 1, 2, 3 or 4;
- A is oxygen or sulfur;
- B is a single bond or  $-\text{NR}_8-$  wherein  $\text{R}_8$  is hydrogen,  $\text{C}_{1-6}\text{alkyl}$  or aryl optionally substituted by one or more substituents independently selected from halogen, oxo,  $\text{C}_{1-6}\text{alkyl}$ ,  $\text{CF}_3$ , cyano, hydroxy,  $\text{C}_{1-6}\text{alkanoyl}$ , and  $\text{C}_{1-6}\text{alkoxy}$ ;
- D is  $-(\text{CH}_2)_t-$ ,  $-(\text{CH}_2)_t\text{O}-$  or  $-\text{O}(\text{CH}_2)_t-$ , wherein t is 0, 1, 2, 3 or 4; and
- E is  $\text{C}_{1-6}\text{alkyl}$ , halo $\text{C}_{1-6}\text{alkyl}$ ,  $\text{C}_{3-7}\text{cycloalkyl}$  (optionally substituted by one or more halogen, hydroxy, oxo,  $\text{C}_{1-6}\text{alkyl}$ , cyano,  $\text{CF}_3$ ,  $\text{OCF}_3$ ,  $\text{C}_{1-6}\text{alkoxy}$  or  $\text{C}_{1-6}\text{alkanoyl}$ ), or aryl (optionally substituted by one or more substituents independently selected from halogen, oxo,  $\text{C}_{1-6}\text{alkyl}$ ,  $\text{CF}_3$ , cyano, hydroxy,  $\text{C}_{1-6}\text{alkanoyl}$ , and  $\text{C}_{1-6}\text{alkoxy}$ ); or E is  $-\text{NR}_9\text{R}_{10}$  (wherein  $\text{R}_9$  and  $\text{R}_{10}$  are independently selected from hydrogen,  $\text{C}_{1-6}\text{alkyl}$  and aryl optionally substituted by one or more substituents independently selected from halogen, oxo,  $\text{C}_{1-6}\text{alkyl}$ ,  $\text{CF}_3$ , cyano, hydroxy,  $\text{C}_{1-6}\text{alkanoyl}$ , and  $\text{C}_{1-6}\text{alkoxy}$ );

- or  $\text{R}_3$  and  $\text{R}_4$ , together with the nitrogen atom to which  $\text{R}_3$  and  $\text{R}_4$  are attached, combine to form a 3-7 membered monocyclic heterocyclic group (optionally substituted by 1 to 4 substituents, which may be the same or different, and which is selected from halogen, oxo,  $\text{C}_{1-6}\text{alkyl}$ , cyano,  $\text{CF}_3$ ,  $\text{C}_{1-6}\text{alkoxy}$  and  $\text{C}_{1-6}\text{alkanoyl}$ );
- $\text{R}_5$  is independently halogen, cyano,  $\text{C}_{1-6}\text{alkyl}$  or  $\text{C}_{1-6}\text{alkoxy}$ ; and
- q is 0, 1, 2, 3 or 4.

10. (original) A compound as claimed in claim 1, which is:

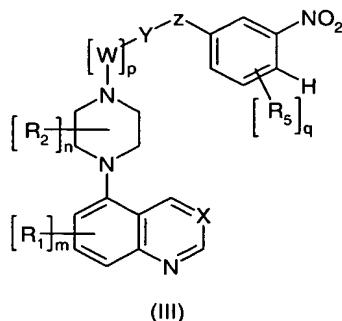
- 3-(3-{2-[4-(2-methyl-5-quinoliny)-1-piperazinyl]ethyl}phenyl)-1,3-oxazolidin-2-one;
- $N$ -(3-{2-[4-(2-methyl-5-quinoliny)-1-piperazinyl]ethyl}phenyl)- $N'$ -phenylurea;
- $N$ -[2-(methoxy)phenyl]- $N'$ -(3-{2-[4-(2-methyl-5-quinoliny)-1-piperazinyl]ethyl}phenyl)urea;
- 1-(3-{2-[4-(2-methyl-5-quinoliny)-1-piperazinyl]ethyl}phenyl)-2-imidazolidinone;

- 2,4-dimethyl-*N*-(3-{2-[4-(2-methyl-5-quinoliny)-1-piperazinyl]ethyl}phenyl)-1,3-thiazole-5-carboxamide;
- *N*-(3-{1-hydroxy-2-[4-(2-methyl-5-quinoliny)-1-piperazinyl]ethyl}phenyl)-2,4-dimethyl-1,3-thiazole-5-carboxamide;
- 2-fluoro-*N*-(3-{2-[4-(2-methyl-5-quinoliny)-1-piperazinyl]ethyl}phenyl)benzamide;
- 3-(3-{2-[4-(2-methyl-5-quinoliny)-1-piperazinyl]propyl}phenyl)-1,3-oxazolidin-2-one;
- 3-(3-{2-[(2R)-2-methyl-4-(2-methyl-5-quinoliny)-1-piperazinyl]ethyl}phenyl)-1,3-oxazolidin-2-one;
- 1-methyl-3-(3-{2-[4-(2-methyl-5-quinoliny)-1-piperazinyl]ethyl}phenyl)-2-imidazolidinone;
- 1-(4-fluoro-3-{2-[4-(2-methyl-5-quinoliny)-1-piperazinyl]ethyl}phenyl)-2-imidazolidinone;
- 3-(4-fluoro-3-{2-[4-(2-methyl-5-quinoliny)-1-piperazinyl]ethyl}phenyl)-1,3-oxazolidin-2-one;
- 1-(3-{2-[4-(2-methyl-5-quinoliny)-1-piperazinyl]ethyl}phenyl)-2,4-imidazolidinedione;
- 1-(3-{2-[4-(2-methyl-5-quinoliny)-1-piperazinyl]ethyl}phenyl)-1,3-dihydro-2H-imidazol-2-one;
- 1-methyl-3-(3-{2-[4-(2-methyl-5-quinoliny)-1-piperazinyl]ethyl}phenyl)-1,3-dihydro-2H-imidazol-2-one;
- 4,4-dimethyl-1-(3-{2-[4-(2-methyl-5-quinoliny)-1-piperazinyl]ethyl}phenyl)-2-imidazolidinone;

or a pharmaceutically acceptable salt thereof.

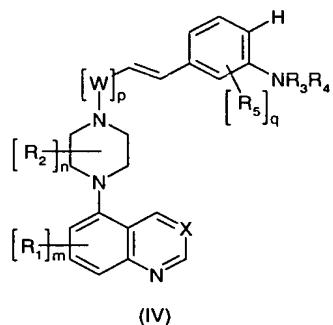
11. (original) A process for the preparation of a compound as claimed in claim 1, which process comprises:

(a) converting a compound of formula (III):



wherein  $R_1$ ,  $m$ ,  $X$ ,  $R_2$ ,  $n$ ,  $W$ ,  $p$ ,  $Y$ ,  $Z$ ,  $R_5$  and  $q$  are as defined in claim 1; or

(b) for a compound of formula (I) wherein Y and Z form a cyclopropylene group,

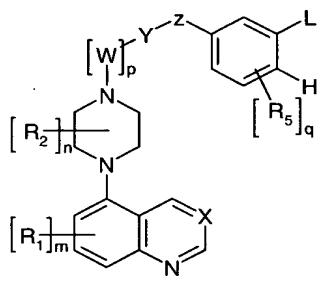


(IV)

converting a compound of formula (IV):

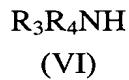
wherein  $R_1$ ,  $m$ ,  $X$ ,  $R_2$ ,  $n$ ,  $W$ ,  $p$ ,  $R_3$ ,  $R_4$  and  $R_5$  and  $q$  are as defined in claim 1; or

(c) reacting a compound of formula (V):



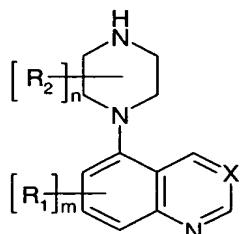
(V)

wherein  $R_1$ ,  $m$ ,  $X$ ,  $R_2$ ,  $n$ ,  $W$ ,  $p$ ,  $Y$ ,  $Z$ ,  $R_5$  and  $q$  are as defined in claim 1, and  $L$  is a leaving group, with a compound of formula (VI):



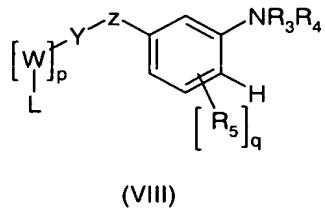
wherein  $R_3$  and  $R_4$  are as defined in claim 1; or

(d) reacting a compound of formula (VII):



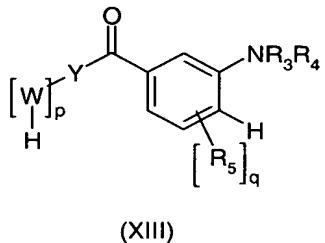
(VII)

wherein R<sub>1</sub>, m, X, R<sub>2</sub> and n are as defined in claim 1, with a compound of formula (VIII):



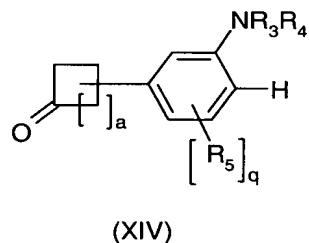
wherein W, p, Y, Z, R<sub>5</sub>, q, R<sub>3</sub> and R<sub>4</sub> are as defined in claim 1, and L is a leaving group; or

(e) for a compound of formula (I) wherein Z is -CH(OH), reacting a compound of formula (VII) as defined in step (d) with a compound of formula (XIII):



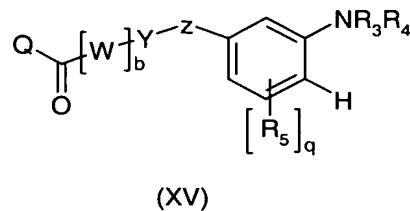
wherein W, p, Y, Z, R<sub>5</sub>, q, R<sub>3</sub> and R<sub>4</sub> are as defined in claim 1; or

(f) for a compound of formula (I) wherein Y and Z form a C<sub>3-7</sub>cycloalkylene group, reacting a compound of formula (VII) as defined above with a compound of formula (XIV):



wherein R<sub>5</sub>, R<sub>2</sub>, R<sub>3</sub> and q are as defined in claim 1 and a is 0, 1, 2, 3 or 4; or

(g) for a compound of formula (I) wherein the group W or Y attached to the nitrogen in the piperazine group in formula (I) is CH<sub>2</sub> or CH(C<sub>1-6</sub>alkyl), reacting a compound of formula (VII) as defined above with a compound of formula (XV):



wherein R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, q, Z, Y and W are as defined in claim 1 and b is 0, 1 or 2 and Q is hydrogen or C<sub>1-6</sub>alkyl;

and thereafter optionally for any of steps (a) to (g):

- removing any protecting groups and/or
- converting a compound of formula (I) into another compound of formula (I) and/or
- forming a pharmaceutically acceptable salt.

12. (cancelled)

13. (cancelled)

14. (cancelled)

15. (currently amended) A method of treatment of a CNS disorder in a mammal ~~including a human~~, which comprises administering to the sufferer a therapeutically safe and effective amount of a compound as claimed in claim 1 ~~any of claims 1-10~~.

16. (original) A method as claimed in claim 15, wherein the disorder is depression or anxiety.

17. (cancelled)

18. (cancelled)

19. (currently amended) A pharmaceutical composition comprising a compound as claimed in claim 1 ~~any of claims 1-10~~, and a pharmaceutically acceptable carrier or excipient.

20. (currently amended) A process for preparing a pharmaceutical composition as defined in claim 19, the process comprising mixing a compound as claimed in claim 1 ~~any of claims 1-10~~ and a pharmaceutically acceptable carrier or excipient.